

Phase I Transformation Dialogue Summary

February 24, 2005

One NASA Team

Making decisions for the common good
Collaborating to leverage existing capabilities
Standardizing to achieve efficiencies



Table of Contents

Executive Summary	3
Introduction.....	5
Most Active Themes	8
“Debated” or Controversial Themes	11
Creative and Innovative Themes	13
Conclusions and Next Steps.....	15
Appendix: Answers to Questions from Senior Leaders.....	17

Executive Summary

This report describes the process, content of and the participation on the Transformation Dialogue Bulletin Boards that were created to foster education and dialogue about the Agency's Transformation. The report describes the activity on the Boards from inception in July 2004 through December, 2004.

In June of 2004, NASA leadership asked the One NASA team to develop a forum by which they could demonstrate their commitment to a leadership style of engagement. The Agency was entering a period of great change and the leadership team wanted to engage the NASA Family in dialogue and an exchange of ideas that would inform and help shape the way forward to achieving NASA's goals. This forum would provide a place where information could be provided, everyone could share concerns, questions and ideas and leadership could answer questions.

The One NASA team responded by providing three avenues for dialogue – a live format held at various sites throughout the Agency with interested participants at those sites; a broadcast of those live discussions throughout the Agency that also provided viewers the opportunity to submit questions via email as the broadcast was underway; and an on-line bulletin board that allowed the conversation to continue after the broadcast ended.

There were slightly over 10,000 visits to the Bulletin Boards by people on the NASA network (these are people who visited the site). In total, 716 posts (messages) were created by approximately 250 people. Two hundred sixty of the posts were made in July and August. The current monthly average is around 60. In a poll of those who chose to visit the site but did not post, sixty percent identified one main reason for not posting: "I believe anything I say will have no influence on the Transformation."

The posts were read and categorized as one or more of the types shown in the following table. Two themes received significantly more activity than the others: "Concerns about funding" and the "Direction of the Agency." These posts showed concern about the future funding for the entire Agency as well as several specific programs because of the projected high costs of programs, privatization, changing visions, the budget process and others.

Three themes received significantly more debate than any others:

- Federally Funded Research and Development Centers (FFRDC)
- Competition and collaboration within the Agency
- Leadership development.

In addition there were a number of posts perceived as "creative or innovative", including those focused on settlements in space.

Themes are summarized in the following table.

Most Active Themes	“Debated” Themes	Creative/Innovative Themes
<ul style="list-style-type: none"> • Funding concerns • Direction of the Agency • Leaders should participate on Boards • Increase NASA public visibility • NSSC is a good model • Managers lack technical skills • Most employees are becoming contract monitors 	<ul style="list-style-type: none"> • FFRDC • Leadership development • Competition & collaboration among Centers 	<ul style="list-style-type: none"> • Promote settlements in space • Develop US Space Academy • Replace Centers with smaller, more diffuse organizations. • In-house work should be all work that has no marketplace • NASA TV ideas (several) • Consistency in visitor policies • Establish consult roles at Centers to improve employee/mgr. Relations

Twelve questions to the NASA Family were posted to the boards on behalf of senior leaders. The answers posted to these are summarized in the Appendix of this Summary Report along with quotations from relevant posts.

Conclusions based on analysis of the posts are:

- The Boards provided a valuable forum where leadership could share information and people could debate, discuss and share creative ideas. The Boards were also useful in identifying themes that formed the basis for some of the Transformation Dialogue broadcasts.
- The numbers of posters and sequence of interactions prevent conclusions about the representativeness of the posts for the general NASA population in a statistically relevant sense but that was not the intent. The Boards were intended to provide a “town square” like venue for a qualitative exchange.
- Although the Bulletin Boards provided a venue for education and exchange of ideas, the Boards were not used by many for a variety of reasons including time, concern of being identified or not feeling their comments would affect the Agency’s transformation.
- The Bulletin Boards process provided valuable insight into how to best educate the NASA workforce about the Transformation and about how to foster dialogue. It appears, based on the number of people willing to post their thoughts, that other methods (face to face, or enhanced participation by NASA leadership in future electronic efforts) may be better suited or needed in addition to the boards to promote dialogue on a larger scale.

Introduction

Background

This report describes the content and participation on the Transformation Dialogue Bulletin Boards that were created to facilitate a discussion about NASA's Transformation. This document describes the major themes of the messages posted from the inception of the Bulletin Boards on July 9, 2004 through December 31, 2004. As postings are expected to continue for several months, this report can be considered interim although it contains much more in-depth analysis than the previous weekly and monthly interim reports about the Bulletin Boards.

The Bulletin Boards are an on-line set of forums for promoting "threaded" discussions among the NASA Community about the Transformation. Only those on the NASA network can access the Boards whose URL is <http://visionforum.nasa.gov>. The Boards were created as an adjunct to the live video broadcasts about the Transformation, which were filmed in front of NASA audiences that were able to have a dialogue with the senior leaders hosting the broadcasts. The Boards provided an opportunity to continue those dialogues.

The Boards are structured into nine forums to which those on the NASA network can post. These nine forums were created by the One NASA Team to promote discussion of the topics central to the Transformation. About 20 percent of the "topics" that are the sub-forums were also created by the One NASA Team. Users of the site created about 80 percent of the topics. Almost all of these are focused on the Transformation and the moderators of the Boards moved those that were not relevant to an "Off-Topic" forum (and included them in the analysis done for this report).

Participation

Approximately 250 persons entered 716 posts logged during the reporting period. The initial number of posts per week were high during the beginning of the reporting period but have diminished over time. The number of posts per month is currently averaging around 60.

There were over 10,000 visitors (people viewing the Boards but not posting) during the reporting period. Visits to the Boards ranged between 200 and 1800 per week. There were more than 3400 visits in July with 800 on July 13th alone. Monthly unique visitors at one point were in excess of 1500 and now average around 300 per month. Participation began to decline after the live broadcasts about the Transformation were discontinued for a few months. There were 177 persons who registered themselves on the Boards and indicated the Center at which they are located:

Many avenues were used to solicit participation on the Boards from all on the NASA network including the removal of a requirement to register in order to post. However, posters could still register and note their name, email address, employer and location if they chose to do so. In spite of the removal of the requirement to register, "Visitors" (those just viewing the posts and not posting) still out number posters by more than 13 to 1.

This prompted a survey of visitors (not posters) to determine why more people do not post to the Boards. One hundred ten people responded. The results were:

- 72 out of 110 people chose: “I believe anything I say will have no influence on the Transformation (change in NASA)”
- 26 out of 110 people chose: “I don’t have anything to contribute yet”
- 13 out of 110 people chose: “I don’t believe the pledge of anonymity will be kept (upheld)” [anonymity about a poster’s identity]
- 11 out of 110 people chose: “I don’t have time to post”
- 9 out of 110 people chose: “Other”

Process Used to Analyze the Posts

Limitations

Initial examination of the posts revealed that the typical sequence of posting within a “topic” is one where posters introduce a theme (issue), add a post or two about that theme and then someone creates a new topic. The sequence looks something like several iterations of the following nature:

- First person posts about A
- Second person agrees or suggests a new twist of A+
- Third person agrees with A or A+
- Fourth person posts about B
- And the sequence iterates once or twice.

One of the results of this type of interaction is that it is unclear just how many people agree or disagree with a specific point. No vote was taken. Instead, a few people, from among all those visiting the site, sequentially keep adding something new, following the norm of conversation that makes it incumbent on the speaker to contribute new information. The upshot of this is that it is difficult to determine if any wide agreement exists among the posters or visitors. It also makes it difficult to comprehensively describe the content of the Boards.

Categories of Posts

This type of interaction on the Boards led to the development of only a few categories for summarizing the content of the posts (besides reporting on the general tone and range of the posts as noted above in addition to the levels of participation):

- Themes with most activity
- “Debated” themes or topics
- Creative or innovative themes
- Answers to the questions posed by senior leaders.

Even though there was little or no consensus within a specific “Topic”, the same themes of one topic are often found in other Forums and their topics. Thus the analysis looked across Forums and Topics for themes having the support of multiple posters who agreed, for the most part with one another. Where a theme had multiple posters without a significant difference in opinion these were placed in the “Most Active Themes” category.

There were several themes that posters had differing opinions about and these were often timely issues. Where such differences involved more than two posters and a non-trivial issue, they were included in the category called “Debated Themes.”

If a post or theme was not included in the previous two categories but was deemed innovative or creative by members of the One NASA team analyzing the data, it was included in the category so named. This category was created to bring to the attention of readers those posts that were not clearly popular or controversial but were noteworthy.

The last category - answers to the questions posed by senior leaders - was formed to provide a more detailed and specific response to those questions. The responses to these questions were placed in the Appendix of this report because they are specific to only a few questions and do not focus on the majority of the posts as do the other sections of the report.

General Characteristics of the Posts

The posts contained a wide range of topics about organizational models, skill retention, FFRDC conversion, the Vision for Space Exploration and funding as well as many others. The majority of the posts were positive about NASA and demonstrated loyalty to the Agency, often in very explicit terms. There were also about 25 percent of the posts that were skeptical or critical of some specific aspect of the Agency such as its organizational structure, training or plan for the future

More than a quarter of the posts were directed primarily at leadership/management. A slightly lesser percentage were suggestions about the Transformation or other questions posted on the Boards and about 30% were statements of facts, quotes or links to other sites.

Many of the posts were positive about the Bulletin Boards and the role they play. While the posters wanted more of the Community to post, many of them expressed a desire to have the Boards continue. Lastly, there were only a handful of argumentative posts and none that had to be edited or deleted by the Moderators of the Forums.

The next three sections describe the posts classified into the three categories developed for them. The following table summarizes the findings in those categories.

Most Active Themes	“Debated” Themes	Creative/Innovative Themes
<ul style="list-style-type: none"> • Funding concerns • Direction of the Agency • Leaders should participate on Boards • Increase NASA public visibility • NSSC is a good model • Managers lack technical skills • Most employees are becoming contract monitors 	<ul style="list-style-type: none"> • FFRDC • Leadership development • Competition & collaboration among Centers 	<ul style="list-style-type: none"> • Promote settlements in space • Develop US Space Academy • Replace Centers with smaller, more diffuse organizations. • In-house work should be all work that has no marketplace • NASA TV ideas (several) • Consistency in visitor policies • Establish consult roles at Centers to improve employee/mgr. relations

Most Active Themes

This section describes the seven themes that had five or more posters supporting them. Given the typical sequence of interactions previously described, relatively few themes made the cut for this category. Those themes included on the following pages in the “Debated” Themes category were not included here even if five or more posters agreed with the idea. The themes are presented in descending order of “popularity”, with their central ideas presented along with the number of posters supporting them, an example if needed and any other significant aspects of the theme.

Concerns About Funding

This was the most widely mentioned topic with at least 16 posts containing some form of concern about funding for the Agency or specific programs, especially the Exploration Vision. While all the posts in this category expressed concern, many of them also expressed the idea that adequate funding for specific programs was unlikely. There were a variety of reasons cited including:

- The budget process
- Lack of adequate public support
- High costs or unknown total costs
- Competition among Centers and programs
- Privatization of programs
- Changing plans, visions and programs.

A significant element of all of these posts and their concerns involved the element of uncertainty about funding. Most of them spoke of future funding rather than current levels as well as the low probability that future levels would be adequate.

Another significant aspect of several of these posts is that the perceived squeeze on funds seems to exacerbate the competition among programs. Several of the posts cited other programs or Centers getting so much of the “pie” that their program or Center was left wanting. For example, one of the many posts that cited the report developed for Representative Bart Gordo about America’s untapped resource¹ stated:

“It also became clear that NASA's other important R&D activities - aeronautics, Earth science, major areas of space science, space communications, and education - were all going to be progressively squeezed to make the budgetary math work.”

Direction of the Agency

The central idea of this theme is that the direction of the Agency is either wrong or changing too often. Many are not convinced that the Exploration Vision is the correct one for the Agency. Many more lament that the Agency is changing direction too often. There were also many posts that talked about smaller and more specific “directions” that are “incorrect.” In one form or another there were at least 15 posts of this type. Several included suggestions about what the direction should be for the Agency. One example of a post in this area is the following:

¹ U.S. House of Representatives House Committee on Science – Minority Staff. *Science and Technology: The untapped American Resource*. Unpublished, 2004.

“I do not feel NASA is heading in the right direction. I do not feel we have the budget to return to the moon let alone Mars. With the debt rising rapidly I do not foresee any changes to our budget ...”

Participation on Bulletin Boards by Leadership

The central idea of this theme is that the posters asked for leaders in the Agency to participate in the dialogue on the Boards. At least ten posts hit upon this idea. An example of one is:

“Yes, I would like to see NASA managers participating here. They are the ones responsible for transformation. It is however great that they are reading summaries and sending questions here.”

This same issue also was present in many more posts that implicitly made statements to and about senior leadership, almost as if they were asking for a response. For example:

“I’d like to hear from senior mgmt on what skills, abilities, education and experience they will be looking for to help us move forward with our transformed Agency and its new ways...”

Increase NASA Visibility to the General Public

Approximately eight posters weighed in about their belief that NASA needs to increase its visibility to the public and Congress. Most often this was offered as a means of solidifying or increasing funding for either the Agency or a specific program. Many of these posts about funding stemmed from the idea that funding in the future will be inadequate. Several reasons for this that were offered were the expected cost of the Exploration Vision, and the other funding issues noted above.

It was usually implicit in the posts that the public is ill informed about NASA and that NASA does not do enough to sell itself to the public. For example, one poster commented that

“Many people only know NASA for its space missions, something they see as unnecessary and expensive. We need to figure out a way to let the Average Joe know that we are more than just a space shuttle launching pad, which the research done at NASA directly benefits.”

NSSC is a Good Model

In the context of organizational change and new organizational models for NASA, approximately seven posts indicated that the authors thought the NASA Shared Services Center (NSSC) concept was meritorious. They indicated that the NSSC would decrease competition and improve efficiency. They thought that the functions it will consolidate were in great duplication across the Agency and could effectively be consolidated. For example, one poster stated that:

“As for the contracting out issue - that is already being done for a lot of these activities. The NSSC just allows them to be contracted out in a more centralized cost effective manner.”

NASA Employees are Becoming Contract Monitors

Also in the context of organizational change and retention of skills and core capabilities, at least six of the posters noted that they believe NASA employees are largely becoming contract monitors.

Central to most of those posts is the idea that few employees do any hands-on work but rather monitor the contracts of corporations and universities whose employees do the hands-on work of the Agency. For example:

“NASA is in transition from a workforce of hands-on workers to a workforce of contract monitors. Is the dysfunction organizational or just another solution circling the wrong problem? The outsourcing transition isn't complete yet. Until all of the remaining CS are in the new roles as contract monitors, we cannot know what the right organizational model is.”

Generally the tone of these posts was negative in that the authors either regretted this direction of NASA or deplored such work.

Managers Lack Technical Skills

In the context of competency management and ensuring technical excellence, perhaps a half dozen posters lamented the notion that most managers in NASA lack adequate technical skills. Some supported this contention by quoting from the report to Representative Bart Gordon noted earlier, to the effect that NASA management used to be great mostly because it consisted of “the most distinguished engineers and scientists in the nation.” One poster suggested that:

“Perhaps, then, to help alleviate the problem of administrative middle managers making decisions for scientists and engineers, it should be a requirement that anyone who is given the position of manager over a scientist or engineer should BE a scientist or engineer. That way, their knowledge and background, instead of politics and \$\$\$, will be the guiding factors in their decision making.”

While a few posters disagreed with the latter, many who addressed the topic thought that managers often come from backgrounds in which they focused much more on technical managerial skills rather than engineering and science.

“Debated” Themes

In the Forums there were many topics that were a source of debate among users. Although no definitive conclusions were reached in these debates, it is important to note that the Boards provided an open forum for the exchange of ideas and to examine Transformation topics from multiple perspectives.

All three independent reviewers agreed there were three major topics that fit in this category: FFRDC; Competition vs. Collaboration; and Leadership Development. Under each theme is a brief description of the dialogue that took place along with some sample quotes from the forum.

Federally Funded Research and Development Centers

There was debate involving approximately 33 posts about the feasibility of converting Centers to FFRDC. Generally the posts were characterized by apprehension. Some employees reported that they were open to the idea but wanted more information, while others stated that they were interested in keeping their NASA civil servant title. For these employees, being a civil servant and a NASA employee was a source of pride that they were unwilling to give up. For example, one noted:

“I will admit that I bypassed a significantly higher salary from LM because I wanted to be employed by NASA to serve the American people. It means something to me to be a good steward of public funds used for the purpose of exploring the universe.”

In addition to being concerned about losing their civil servant titles, some users also reported that they are concerned that a conversion to FFRDC will also result in a loss of their current retirement plans. Posts went back and forth discussing options for employees under both FERS and CSRS systems.

To balance out the conversation some users from JPL joined the conversation and shared their views about working for an FFRDC:

“The FFRDC's, JPL and Aerospace Corp. pay significantly more than the NASA centers do ... And we have a lot of job security at JPL ... Also as a JPL employee, I feel like I am serving the American people...”

Competition and Collaboration

There was also considerable debate in the approximately 30 posts about the role of competition in an FFRDC environment and how the Agency can continue towards “One NASA” in an environment that forces the Centers to compete for funding. The following posts reflect much of the sentiment:

“... the conversion to FFRDCs seems to fly in the face of the "One NASA" that's been pushed recently. How can we be one NASA, if all the Centers continuously compete against each other? Won't conversion just exacerbate this tendency...”

“I think the resistance toward competition is that people believe it will promote withholding of information. One NASA is dedicated to sharing resources ... people are afraid of with respect to FFRDCs is that if they have to compete, then we will not be sharing resources...”

There were also many points raised about the pros and cons of assigned work versus competition and the work of the One NASA Competition Working Group.

“I heard a lot today on the broadcast about competition leading to the best ideas; but the other function of competition is to get as much as you can for the lowest cost. If we are being screened out on cost, our ideas - even should they be brilliant - will never be selected.”

“One thing that bothers me about the CWG white paper ... is that it doesn't address the role of non-NASA organizations. When work is competed between the centers the ... only way to do that well is to open the bidding first to commercial organizations. Only if this open bidding shows it is not readily available should the competency be developed and preserved in-house.”

Leadership Development

Leadership training and development is a broad topical area that was approached from a variety of perspectives in approximately 25 posts. The most interesting portion of the debate centered on whether managers should have a background in science or engineering, with almost all of the posts favoring such a background.

The most debated issue, while not particularly controversial, was about the nature of leadership. “Are leaders born or made?” Various users went back and forth between increased emphasis on training and development to more accountability and more rigorous promotion practices.

In addition to this philosophical discussion about leadership, an intense debate ensued following the BST training sessions that were conducted at GRC. Several users clearly expressed their perception that the training was not useful.

“The entire class was a useless, touchy-feely management class on decision-making. It had absolutely no value whatsoever. It is absurd to make anyone take this, let alone mandating that the entire center take it (one full day, off site). My understanding is that the reason that all GRC needs to take it is because we scored so low in the last several surveys. Either this is some form of punishment ...”

Despite six posts expressing negative ideas about the training, there was one opposing perception:

“The closed minded few of you that can't find any value in the BST training should look for a new job...new agency.”

Creative and Innovative Themes

Posts that fit in this category were unanimously agreed to by the three raters who examined all the posts on the Boards looking for ideas that were especially creative or innovative relative to the others. Criteria for being included were that the posts had to be:

- Relatively creative or insightful
- A new or novel idea
- An idea whose implementation would have a significant impact on the Agency
- Not totally unrealistic.

The following met those criteria and have been edited to conserve space.

Gain public support by promoting “space settlements”

“... and until establishing a robust space settlements program is an integral part in the US’s space plans, the public will not be impressed with whatever we do. Why? Because that will involve them directly and provide an open ended development of a space faring civilization that THEY can participate in and become stakeholders of. It will then be their fight not just ours ...”

Develop a US Space Academy for training NASA’s new elite

“Modeled after the service academies, it would provide a clear path from desire to realization for the people willing to sacrifice and dedicate themselves to our push into space ... They would form the cadre of the first human generation to move into space ... Like the service academies, the USSA would be formed and funded at a national level. ...Students would be accepted to the USSA by nomination from a congressman or senator and then chosen through appointment...”

Replace Centers with a more diffused set of smaller organizations

“We don’t need a few big NASA centers we need thirty to forty small NASA-funded academic, commercial or non-profit research facilities. This would not only increase the flexibility and diversity of the overall workforce it would also distribute political impact over more congressional districts.”

Establishment of an independent CONSULT role at each Center

“Let’s use BST to really help us by developing a CONSULT role at each center. Let us look at how we can improve employee/manager relationships in a learning environment not the usual US vs THEM mindset. The consultant would be a trained individual AND HAVE NO TIES with Center personnel including upper management ...”

In-house work should be everything that is not supported by a commercial marketplace

“NASA is here to do those things that would not be done otherwise if it didn't exist. We should be not outsource anything unless the contractor can show they will have additional customers and a profit model that sustains that activity even if NASA didn't exist . . . I think the test should be . . . If NASA didn't exist, would they still do it? If not, then bring that function in-house until we can make it profitable, then we will tech-transfer it to them...”

NASA TV Programming Ideas

“Cover space conferences live or edited afterwards. 2: Cover space missions in much greater detail. For instance, we get the mission control Flight Director Loop audio for Mars Rovers. How about adding Shuttle mission control room Flight Director Loop audio so that viewers can understand more immediately, what is going on. 3: Cover NASA speakers when they speak at colleges, dinners, special events. 4: Follow NASA judges at the international science fair. 5: Follow a Shuttle crew through their years of flight preparation. 6: Interview Mercury, Gemini and Apollo retired workers. Air these raw, but also begin to make documentaries from them. 7: Create programming from the NASA oral history projects and others.”

Consistency in Visitor Policies

“Part of the reform of NASA should be a review of the visitor center policy and ways to improve NASA's hosting of their many visitors.”

Conclusions and Next Steps

The Forums that are the Transformation Dialogue Bulletin Boards were established to provide an avenue for Agency-wide dialogue in an open environment where anyone with access to the NASA network could join the conversation, ask questions, and provide answers. Since the Forums were opened to the NASA Family on July 9th, they have met this objective. The posts described on the previous pages demonstrate that the site provides one source of information exchange, new ideas, and open debate that serves to augment existing Agency communication vehicles. The Forums provide a new mode of communicating for most employees who may have never used a “bulletin board” previously, and as an early Agency-wide demonstration of this technology.

Many of the posters reported that the Forums together with the information posted on Inside NASA prior to each live video broadcast provided them with key information they did not receive through other venues. Examples include the Clarity Team Report, the Aldridge Report, and the Competition Working Group White Paper. In addition, there were many instances where employees asked a basic question requesting information that was then answered by someone else in the community. In this way the Forums have served as a much-needed place where employees can share information. The Forums also contributed to shaping the actual Transformation Dialogue sessions themselves.

The One NASA Team has committed to increasing the traffic on the Boards, and further expanding the usefulness of the site. Fortunately, the users of the Boards have discussed this issue to a large degree and provided some valuable insights. On the Forums there are over 30 posts requesting more be done to publicize the existence of the site and increase the size of the on-line community. The number one idea of this type: Get senior leaders to post. People probably think that senior leaders are not listening because they are not getting any feedback on the ideas and concerns that they are posting.

Ideas regarding actions to increase participation in Bulletin Boards that are being explored include:

- Creating more Agency-wide communications about the existence of the Forums
- Gathering feedback from Senior Leaders on how we can make the site itself and our regular summaries more useful to them.
- Collecting statements from Senior Leaders who posted questions in the Forum and providing that feedback to the on-line community and gathering new questions to post
- Providing more background information and support documents through Inside NASA.
- Augmenting Bulletin Boards with opportunities for face to face dialogue.
- Continuing to schedule new Transformation Dialogue Broadcasts on specific topics of interest to employees.

Perhaps the best conclusion to this report is a summary offered by one of our users:

“This forum is a good way to express what is happening in NASA and how inadequately people are dealing with rapid and unknown changes. The focus needs to allow for a better flow of information, which should result in a better

understanding of how the change is affecting each individual and their organization at large. When someone can plan for change and integrate those changes into their behavior with meaning, the change is more easily accepted and dealt with even if they don't agree with the changes.”

Appendix

Answers to Questions from Senior Leaders

In three of the Forums, the Moderators posted specific questions suggested by senior leaders in order to solicit feedback about pressing issues. The questions helped to demonstrate that senior leaders are interested in the posts, and that they were actively seeking input. Employees appreciated the opportunity to respond to “real questions” from senior leaders, and noted that it demonstrated senior leaders were listening.

The following is a list, per Forum, of the questions posted for senior leaders and a brief summary of the responses received.

Competency Management

How do we tie Center level decisions on capability investment to the future requirements of NASA’s missions? (13 responses were posted)

Under this question there were several good points raised by users including suggestions to

- Centralize staffing decisions under “Discipline Managers”

- Use the roadmaps as the basis for staffing decisions.

Discussion also mentioned the need to promote managers who had technical skills to appropriately manage the work being done. As was evidenced in other areas of the on-line forum, it appears the posters are concerned that their managers lack the technical background required to oversee their work and to manage external contractors.

How do we decide what capabilities NASA should retain in-house or acquire from others? (9 responses were posted)

Under this question, there was considerable debate that included several approaches:

- NASA should only maintain in-house capability when there is no reliable supplier at a reasonable cost from industry or academia and for inherently government work.

- NASA needs to retain in-house capability and technologies that are unique to NASA and its’ mission.

But there was one user with a unique idea. Rather than using the “As Only NASA Can” (AONC) methodology, this user suggested that we replace it with “If NASA didn’t exist, would they still do it (INDE)?”

- “We should not outsource anything unless the contractor can show they will have additional customers and a profit model that sustains that activity even if NASA didn’t exist. As soon as the aerospace industry starts making income off

an area like low-earth satellite launches, NASA should move farther out and continue to push the envelope. We should always ask the question, ‘if NASA didn’t exist to pay you to do this, would you?’”

How do we decide what capabilities should be partially redundant, and what capabilities should be unique? (12 responses were posted)

The discussion under this question included an idea to make criteria for redundancy “be critical need moderated by chance of loss.” Also included was a general discussion about whether redundancy was a good thing or not. Users generally agreed that some redundancy was needed and that it promoted competition, collaboration, creativity, and a diversity of opinion.

It was also mentioned that given the wide range of specialties and capabilities within the agency it is difficult for a casual observer or even upper management to truly identify the areas of duplication. Using the example of advanced materials research one user pointed out that:

“... advanced materials research covers a broad area, GRC is focused on materials for propulsion systems, LaRC on materials for aerospace structural components, ARC on materials for TPS, etc. . .in many cases the scientists working these areas become highly focused and specialized on specific materials and chemistries such that they are not interchangeable. . . It will always come down to the level of technical understanding to be able to make such a judgment.”

How do we create an Agency-wide capability inventory? (12 responses were posted)

This discussion focused on using Resumix and STARS to conduct the inventory. Many users stated that these programs are already in place, and in many cases their personal information is already entered. Users suggested that NASA require all civil servants to upload their resumes.

“My thought is this has to come down from senior management as an analysis of existing capability or as an agency-wide initiative of some sort – employees being solicited for their perceived capabilities and their managers responding to inputs of their employees.”

It was also brought out that a capability inventory should include facilities and infrastructure to examine the need for new facilities and tools required to ensure technical excellence.

How do we measure the relevance of a capability to mission needs, and the maturity and quality of a capability to future mission needs? (2 responses were posted)

Due in part to the complex nature of this question there were only two responses offered, and both agreed that the mission needs must be clearly defined before you can truly discuss measurement or relevance of capability.

Alternate Organizational Models

What do senior leaders in the Agency need to be concerned about when moving to new organizational models? What should be leaders' primary concerns if we move to new models? (14 responses were posted)

There was only moderate variability among the answers posted by users under this question. Consequently, there were only nine different ideas suggested as those that should be leaders' primary concerns in evaluating new organizational models.

Three posters suggested the first three ideas noted below. The rest were suggested only once:

- Ensure the free flow of information between NASA organizations
- Allow for sufficient risk taking
- Ensure the model promotes greater efficiency
- That the model is supported by the NASA family
- Avoid making contractors second class
- Not cement us to our current vision as the vision will change
- One that allows the conduct of government business
- Acceptance by Congress
- One poster said it did not matter, because the work gets done anyway.

What are general concerns about the analysis process or about the possibilities of moving to new models? (5 responses were posted)

There were only five posts to this topic and one of those was not a concern about the analysis process but rather a concern about the lack of more posts. The suggestions posted about what are concerns for the analysis process were:

- Health insurance, job security and retirements benefits
- Congressional politics
- Hiring an organization to help in the analysis process that has a vested interest
- That it will continue until the pre-analysis desired result is deemed the logical and proposed alternative.

What challenges that NASA is facing might alternative organizational models address? How might new business models help NASA reach its goals? (3 responses were posted)

Only one of the posts under this question presented a direct answer. That poster suggested that locating NASA operations on non-Federal land would allow a "design-build-own approach to facilities construction for new facilities." Whereas facilities built on Federal land require the contractor to lease the land from the government which was deemed a messy proposition.

The other posts focused on heavy-lift launch capability and on the idea of having the Facility Support Directorate act as if they are a "sub-contractor" that identifies a problem, solicits proposals

and pays the bill. Perhaps this is relevant to the challenges faced not by NASA as a whole but by facilities support directorates.

In what ways does NASA need to be more flexible and agile? Would new organizational models help agility? (9 responses were posted)

All of the posts under this question proposed an organizational model devoid of Centers as we know them. They proposed a model that assigns work to the best qualified regardless of where they reside including contractor and university organizations. While NASA as an agency would still be intact, and may have concentrations of employees at the current Centers, the funding and reporting and management would not be based on Centers.

A few of the posts addressed supervisory functions in such an environment and how to deal with NASA employees who from time to time would have no work under such a model. One solution posed for supervisors was to have supervisors for “super branches” that transcend Centers.

Role of Competition

Who should decide what “Mission Critical” capabilities NASA should maintain in-house? (5 responses were posted)

Two posts placed the decision at a high level, that being the Partnership Council and/or Center Directors. One suggested the Branch Head level. Two conceded that mission critical does not have to be in-house just as long as it is available.

How can we validate that in-house NASA capabilities are “best in class”? (3 responses were posted)

Each of the posts under this question offered a different view on the matter. One suggested NASA build capabilities in-house to gather the experience, another suggested NASA compete with the outside. The third suggested that NASA establish metrics upfront to compare with industry capabilities.

If targets for directed work (% of total work at a Center) should be established to sustain in-house capability, how should these targets be established? (6 responses were posted)

There was a high degree of variability among the answers to this question. Two posters took the position that quotas should not be set. Their suggestion was for NASA to establish critical competencies for a Center then let the workforce be requirements driven to include moving people among Centers to match skills with requirements. The others consented to a quota, but suggested that it be flexible and change as appropriate to ensure a core competency was sustained. There was dialogue on what metrics should be established to gauge that the Centers are producing high quality/technical products. The following captures the essence of the dialogue on metrics:

“If a decision were made that a permanent percentage should be set up, I imagine a metric should be established so that the core competencies can be demonstrated in some way. The clearest metric would be a flying project of

some kind: spacecraft, equipment, experiment. Software is one of the newer, growing competencies and can be measured a variety of ways. Then once this metric is established, fund core competency just enough that competency is demonstrated. Do not over fund this unless the projects funded tie directly to missions.”

To sustain some level of in-house capability, should targets for directed (% of total work at a Center) be established for each Center? (8 responses were posted)

The posters to this question reached the consensus that if “directed” work were necessary to sustain a capability, an approach is needed to ensure complacency does not result among the Centers receiving directed work. In general the view was that work should be requirements-driven, and NASA should study further what work is required to be in-house, and the rest be competed externally.

How can we assure that collaboration occurs among all organizations contributing to what has been identified as a critical capability? (6 responses were posted)

Some posters suggested using collaboration as criteria for determining how work goes to a Center. There were also the traditional suggestions of better communication via more technical and face-to-face meetings to promote collaboration. Two posts cited the cultural aspects of collaboration and are captured in the following dialogue:

It is natural to work in our narrow areas of expertise. Collaboration among Centers will occur if and only if each Center has something to offer, something they can bring to the table, and there is synergy in collaboration ($1+1 > 2$). The result of collaboration should be a better product or a better result, which the Agency really needs. For this to happen certain conditions must be met. For example:

1. Center vision must fully agree with NASA vision
2. Center strategic plans must agree with the Agency strategic plan
3. Center competencies must complement one another (no significant duplication)
4. A cadre of people who are willing to work together (One NASA spirit)

One should note that collaboration is a lot harder than it looks. Common interests, common goals and a common culture (of collaboration) really help. I hope the transformation we are working will bring about such a culture.